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(54) **Scaffold with lockable leg**

(57) A scaffold including a plank (1) to support a person thereon, the plank having opposite plank ends, the scaffold further including leg units (2), each leg unit being coupled to an associated plank end by a hinge structure at each lateral side of the plank end, so that each leg unit is pivotal between an extended position and a collapsed

position, each hinge structure including a first hinge part (5) connected to the plank end and a second hinge part (10) connected to the leg unit, as well as a pivot axis between said hinge parts, each hinge structure further including a latch mechanism to retain the leg unit in at least its extended position.

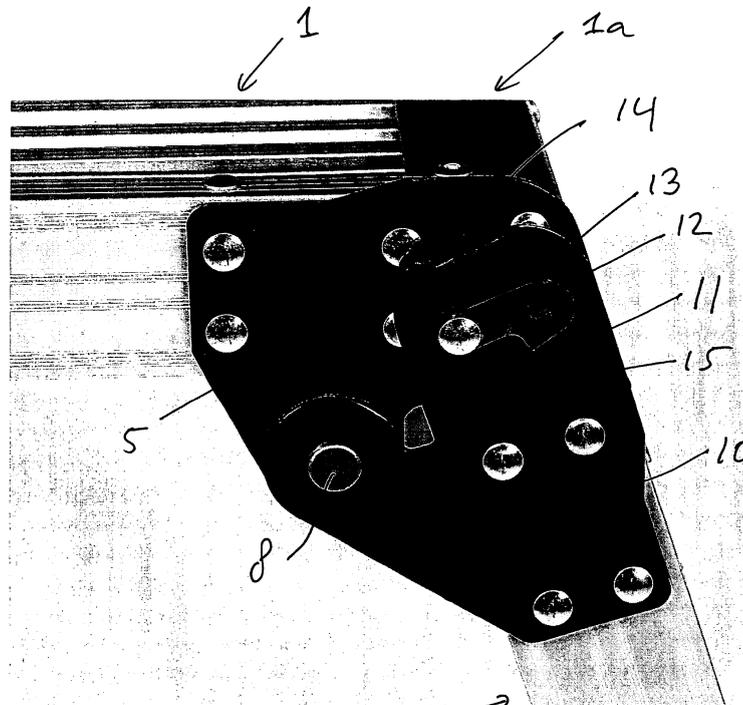


Fig 2

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Description

[0001] The present invention relates to a scaffold including a plank to support a person thereon. The plank has opposite plank ends, the scaffold further including leg units, each leg unit being coupled to an associated plank end by a hinge structure at each lateral side of the plank end, so that each leg unit is pivotal between an extended position and a collapsed position. Each hinge structure includes a first hinge part connected to the plank end and a second hinge part connected to the leg unit, as well as a pivot axis between said hinge parts. Each hinge structure further includes a latch mechanism to retain the leg unit in at least its extended position.

[0002] Such a scaffold, according to the preamble of claim 1, is known in the art.

[0003] US 6,892,860 discloses a scaffold wherein the latch mechanism is arranged at a different position, namely at the axial end of the plank. This latch mechanism engages on a top cross member of the leg unit.

[0004] The present invention aims to provide an alternative hinge structure with latch mechanism.

[0005] The present invention provides a scaffold according to claim 1.

[0006] Further preferred embodiments of the scaffold are mentioned in the subclaims.

[0007] The invention will now be explained in more details referring to the appended drawings. In the drawings:

Fig. 1 shows a portion of a preferred embodiment of the inventive scaffold, the leg unit being about midway between extended and collapsed position,
Fig. 2 shows the portion of figure 1 with the leg unit in extended and automatically latched position.

[0008] Figures 1 and 2 show a portion of a scaffold including a plank 1 to support a person thereon and two leg units 2. The plank is elongated and has opposite plank ends 1a (only one end visible).

[0009] Each leg unit 2 is coupled to an associated plank end 1a by a hinge structure at each lateral side of the plank end 1a (only one hinge structure visible), so that each leg unit 2 is pivotal between an extended position (figure 2) and a collapsed position (lying along the lower side of the plank).

[0010] Each hinge structure includes a first hinge part 5 connected to the plank end 1a and a second hinge part 10 connected to the leg unit 2.

[0011] A pivot axis 8 is present between said hinge parts 5, 10, here at a position below the plank bottom side and inward of the axial end of the plank as is known in the art.

[0012] Each hinge structure further includes an automatic engaging latch mechanism to retain the leg unit in its extended position.

[0013] As can be seen in the drawings each second hinge part 10 includes an upper portion 11 which extends on the outside of the first hinge part 5 when the leg unit

is in its extended position.

[0014] The upper portion 11 has a latch pin receiving opening 12 therein (obscured from view by member 15).

[0015] Each latch mechanism includes a spring-biased latch pin 13, received with the plank end and extending laterally outwards from the first hinge part 5, so as to engage automatically in the latch pin receiving opening 12 upon folding the leg unit to its extended position (see figures 1 and 2).

[0016] The second hinge part 10 further includes a user operable push member 15 which engages or can be made to engage on the front end of the latch pin 13 when received in the latch pin receiving opening 12, so as to allow the user to operate the push member 15 thereby pressing the pin 13 inwards out of said opening 12 allowing the user to fold the leg unit 2 back to the collapsed position.

[0017] Here, as is preferred the push member 15 is a flexible lever, e.g. of suitable plastic material, attached to the second hinge part 10 at a position remote from the pin receiving opening and extending with a portion of the lever over the outside of the latch pin receiving opening 12. By pressing on said portion, the user can press the pin 13 inwards and out of the opening 12.

[0018] As can be seen the upper portion 11 of the second hinge member 12 comprises an inclined pin guidance section 14 having at the upper end of the upper portion a major distance with respect to the first hinge part 5, said distance decreasing towards the latch pin receiving opening so as to force the latch pin 13 inwards upon folding the leg unit 2 to its extended position, until the pin is aligned with said opening 12 and is spring-biased into said opening 12.

[0019] Here, as is preferred, the first and second hinge parts 5, 10 are metal plate members. These first and second hinge parts are riveted to said plank and said leg unit, respectively.

[0020] The plank 1 here includes multiple spaced apart longitudinal plank members, e.g. aluminium profiles.

[0021] Each leg unit here includes two laterally spaced apart uprights, e.g. aluminium profiles, and one or more cross-member interconnecting the uprights.

45 Claims

1. Scaffold including a plank to support a person thereon, the plank having opposite plank ends, the scaffold further including leg units, each leg unit being coupled to an associated plank end by a hinge structure at each lateral side of the plank end, so that each leg unit is pivotal between an extended position and a collapsed position,
each hinge structure including a first hinge part connected to the plank end and a second hinge part connected to the leg unit, as well as a pivot axis between said hinge parts,
each hinge structure further including a latch mech-

anism to retain the leg unit in at least its extended position,

characterized in that

each second hinge part includes an upper portion which extends on the outside of the first hinge part when the leg unit is in its extended position, the upper portion having a latch pin receiving opening therein, and **in that**

each latch mechanism includes a spring-biased latch pin, extending laterally outwards from the first hinge part, so as to engage automatically in the latch pin receiving opening upon folding the leg unit to its extended position,

and **in that**

the second hinge part further includes a user operable push member which engages on the front end of the latch pin when received in the latch pin receiving opening, so as to allow the user to operate the push member thereby pressing the pin inwards out of said opening allowing the user to fold the leg unit back to the collapsed position.

2. Scaffold according to claim 1, wherein the push member is a flexible lever attached to the second hinge part remote from the pin receiving opening.
3. Scaffold according claim 1 or 2, wherein the upper portion of the second hinge member comprises an inclined pin guidance section having at the upper end of the upper portion a major distance with respect to the first hinge portion, said distance decreasing towards the latch pin receiving opening so as to force the pin inwards upon folding the leg unit to its extended position, until the pin is aligned with said opening and is spring-biased into said opening.
4. Scaffold according to one or more of the preceding claims, wherein said first and second hinge parts are metal plate members.
5. Scaffold according to one or more of the preceding claims, wherein said first and second hinge parts are riveted to said plank and said leg unit.
6. Scaffold according to one or more of the preceding claims, wherein said plank includes multiple spaced apart longitudinal plank members, e.g. aluminium profiles.
7. Scaffold according to one or more of the preceding claims, wherein each leg unit includes two laterally spaced apart uprights and one or more cross-member interconnecting the uprights.

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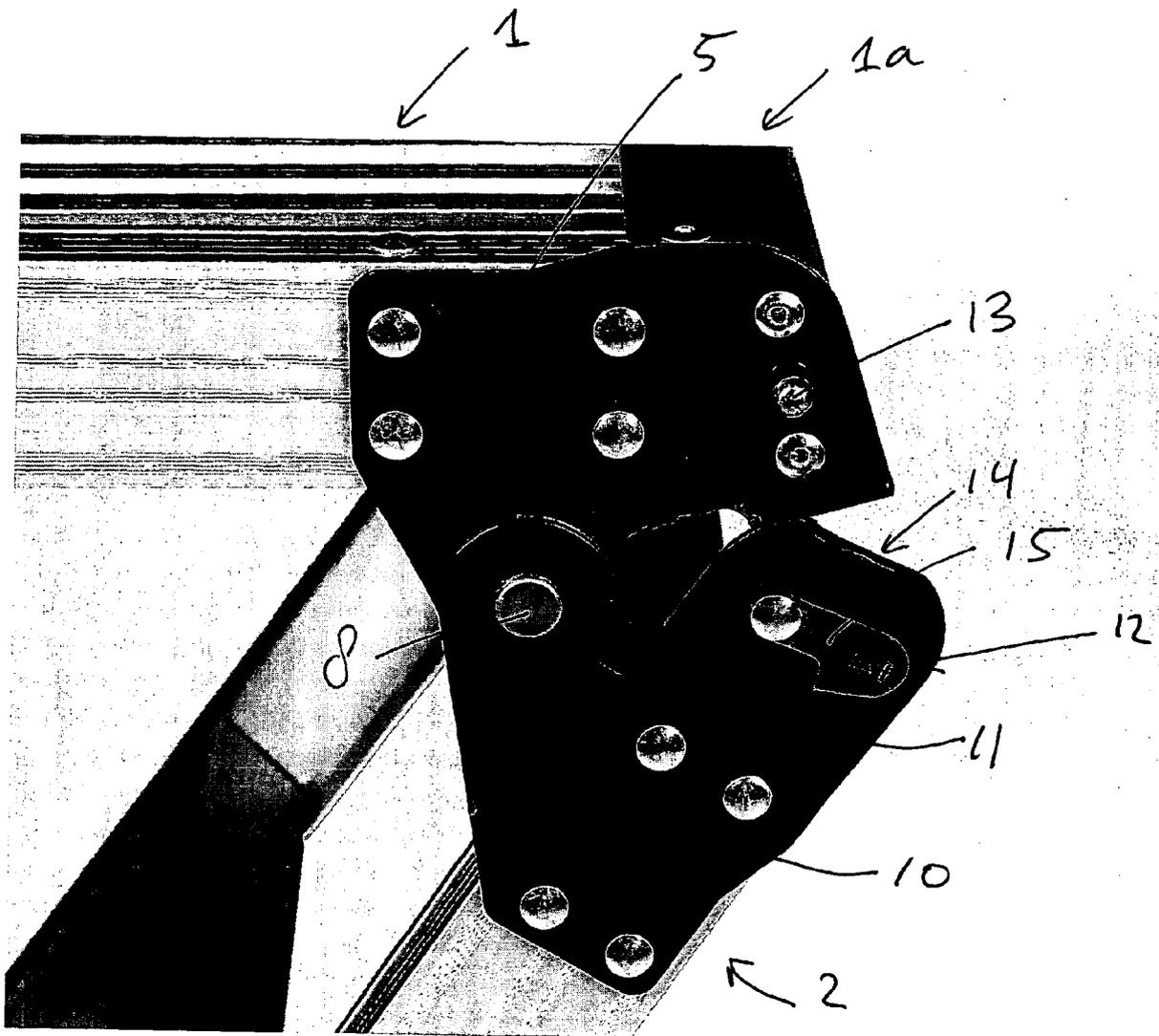
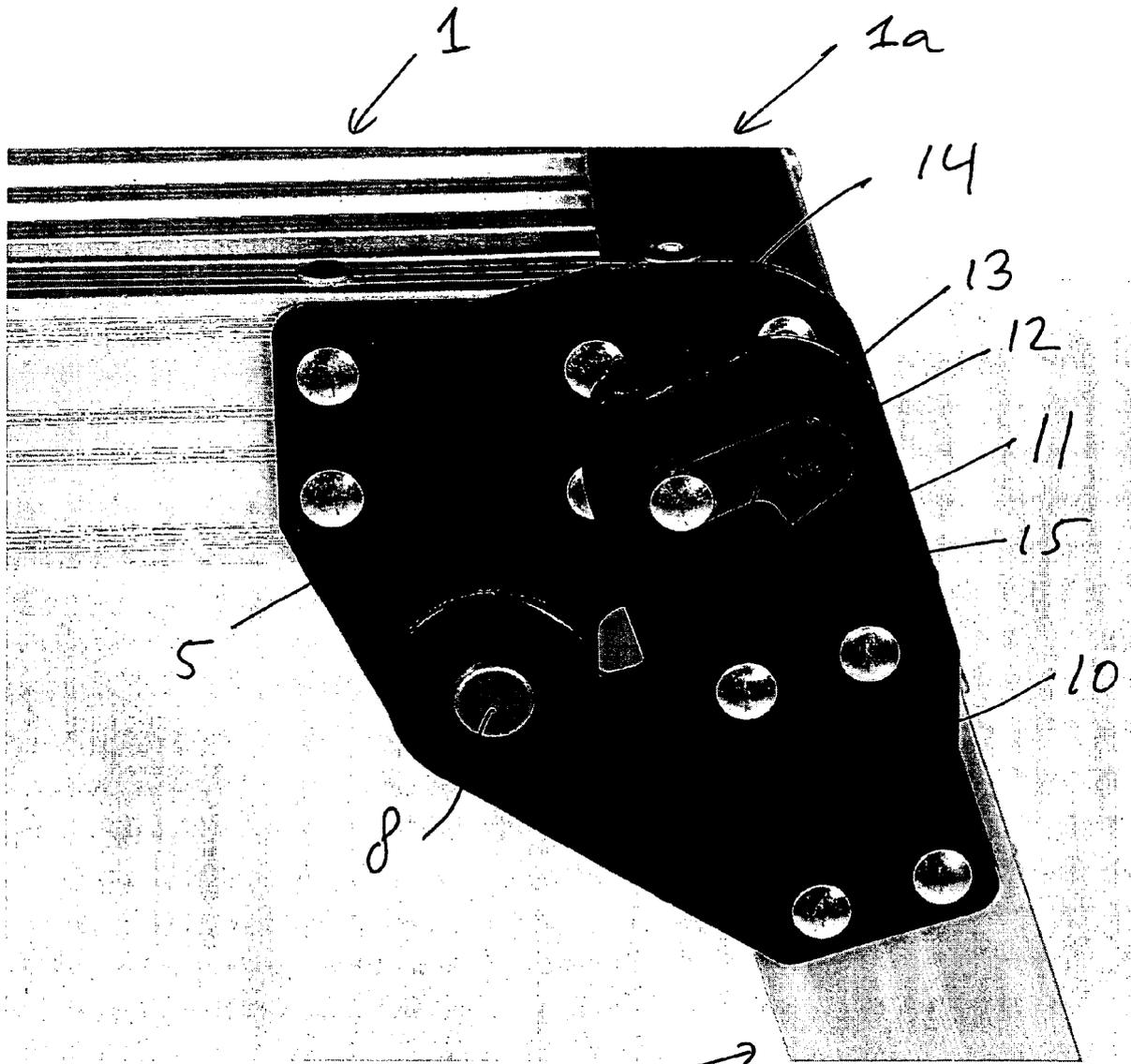


Fig 1



2 →
Fig 2

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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